PTO/SB/21 (03-03)
Approved for use through 04/30/2003. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	09/903,395
Filing Date	July 10, 2001
First Named Inventor	Keith D. Allen
Art Unit	1632
Examiner Name	Michael C. Wilson
Attorney Docket Number	R-653

ENCLOSURES (*Check all that apply*)

- [✓] Fee Transmittal Form
  - [ ] Fee Attached
- [✓] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
  - [ ] Response to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
- [ ] After Allowance Communication to a Technology Center (TC)
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [ ] Other Enclosure(s) (please identify below):

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual	Kelly L. Quast, Reg. No. 52,141
Signature	Kelly L. Quast
Date	July 16, 2003

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: July 16, 2003

Typed or printed	Don Mixon		
Signature	Don Mixon	Date	July 16, 2003

PTO/SB/17 (05-03)
Approved for use through 04/30/2003 OMB 0651-0032
U S Patent and Trademark Office U S DEPARTMENT OF COMMERCE

FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☑ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($)

Complete if Known	
Application Number	09 903,395
Filing Date	July 10, 2001
First Named Inventor	Keith D. Allen
Examiner Name	Michael C. Wilson
Art Unit	1632
Attorney Docket No.	R-653

METHOD OF PAYMENT *(check all that apply)*

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☑ Deposit Account:

Deposit Account Number: 50-1271

Deposit Account Name: Deltagen, Inc.

The Director is authorized to: *(check all that apply)*

☐ Charge fee(s) indicated below ☐ Credit any overpayments

☐ Charge any additional fee(s) during the pendency of this application

☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1001	750	2001	375	Utility filing fee	
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) ($)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below	Fee Paid
Total Claims		-20** =		X	=
Independent Claims		- 3** =		X	=
Multiple Dependent					=

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	84	2201	42	Independent claims in excess of 3
1203	280	2203	140	Multiple dependent claim, if not paid
1204	84	2204	42	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($)

**or number previously paid, if greater, For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for *ex parte* reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	205.00
1252	410	2252	205	Extension for reply within second month	
1253	930	2253	465	Extension for reply within third month	
1254	1,450	2254	725	Extension for reply within fourth month	
1255	1,970	2255	985	Extension for reply within fifth month	
1401	320	2401	160	Notice of Appeal	
1402	320	2402	160	Filing a brief in support of an appeal	
1403	280	2403	140	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,300	2453	650	Petition to revive - unintentional	
1501	1,300	2501	650	Utility issue fee (or reissue)	
1502	470	2502	235	Design issue fee	
1503	630	2503	315	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	750	1809	375	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	750	2810	375	For each additional invention to be examined (37 CFR 1.129(b))	
1801	750	2801	375	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 205.00

SUBMITTED BY

Complete (if applicable)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,395	07/10/2001	Keith D. Allen	R-653	9465

7590 04/16/2003

DELTAGEN, INC.
1003 Hamilton Avenue
Menlo Park, CA 94025

EXAMINER
WILSON, MICHAEL C

ART UNIT	PAPER NUMBER
1632	

DATE MAILED: 04/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

RESP DUE 16-MAY-03

APR 28 2003

Application No.	Applicant(s)
09/903,395	ALLEN, KEITH D.
Examiner	**Art Unit**
Michael C. Wilson	1632

Office Action Summary

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2002* .

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) *34* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-33 and 35-37* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

4. ☐ Interview Summary (PTO-413) Paper No(s).

DETAILED ACTION

The amendment filed 11-7-02, paper number 8, requesting replacement of Fig. 2A has not been entered. The amendment was not entered because a marked up version of the changes to Fig. 2A was not provided.

The amendment filed 12-11-02, paper number 10, has entered in part. The amendment to pg 8, lines 12-15, and the amendment to Fig. 2A have been entered.

Sequence Listing

The application is in sequence compliance.

Election/Restrictions

Claim 34 has not been considered because it is unclear. Determining whether an agent modulates an abnormal spleen, thymus or lymph node using cells as claimed in the absence of an animal does not make sense. As such, a determination as to what group claim 36 belongs cannot be made. Therefore, claim 36 has been excluded from consideration in the restriction requirement.

Restriction to one of the following inventions is required under 35 U.S.C. 121.

Group I, claims 1-4, drawn to a construct encoding two nucleic acid sequences homologous to a melanocortin-3 receptor gene and a selectable marker, classified in class 435, subclass 320.1.

Group II, claims 5-7, 9, 13-15, 29 and 33, drawn to cells transfected with a vector

selectable marker, cells having a disruption in a melanocortin-3 receptor gene, cells isolated from

a mouse having a disruption in a melanocortin-3 receptor gene, and ES cells having a disruption in a melanocortin-3 receptor gene, methods of using such cells to test agents, classified in class 435, subclass 325.

Group III, claims 8, 11, 12, 17-26, 28 and 30-32, drawn to a transgenic mouse having a disruption in a melanocortin-3 receptor gene and a method of making such a mouse, classified in class 800, subclass 8.

Group IV, claims 10 and 27, drawn to a method of making transgenics having a disruption in a melanocortin-3 receptor gene, classified in class 800, subclass 21.

Group V, claims 16, 35 and 36, drawn to an agonist of a melanocortin-3 receptor, classified in various classes and subclasses.

Group VI, claims 16, 35 and 36, drawn to an antagonist of a melanocortin-3 receptor, classified in various classes and subclasses.

Group VII, claim 37, drawn to data, classified in various classes and subclasses.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are patentably distinct because the cells of group II can be used to test cells *in vitro* while the construct can be used to make a probe. The cells do not require the construct and the construct does not have to be used to make the cells as they may occur naturally or by other means of mutagenesis. In addition, the construct does not necessarily disrupt a melanocortin-3 receptor gene because it encodes at least two sequences that are

Inventions I and III are patentably distinct because the mouse of group III can be used as a model of disease while the construct can be used to transfect cells in vitro. The mouse does not require the construct and the construct do not have to be used to make the mouse. In addition, the construct does not necessarily disrupt a melanocortin-3 receptor gene because it encodes at least two sequences that are homologous to a melanocortin-3 receptor gene.

Inventions I and IV are patentably distinct because the construct can be used to make a probe while the method is used to make a disease model. The products and reagents required for a construct are materially distinct from those required to make a transgenic. Inserting the construct of claim 1 into a cell does not necessarily result in a disruption in the melanocortin-3 receptor gene in claim 10. The construct of claim 1 encompasses a construct encoding the full-length gene. The method of claim 10 does not require disruption occurs. The burden required to search both groups together would be undue.

Inventions I and V or VI are patentably distinct because the construct can be used to make melanocortin-3 receptor or to disrupt a melanocortin-3 receptor gene while modulators of melanocortin-3 receptor can be used to treat disease. The protocols and reagents for constructs and modulators are materially distinct and separate. The construct does not require the modulators and the modulators do not require the construct.

Inventions I and VII are patentably distinct because the construct can be used to make a probe while the data can be used for statistical analysis. The protocols and reagents for constructs and data obtained from transgenic mice are materially distinct and separate. The

Inventions II and III are patentably distinct because the mouse of Group III can be used as a model of disease while the cells can be used to isolate protein in vitro. The mouse does not have to be made using a transfected cell or an ES cell as it may occur in nature. A cell comprising the construct may not disrupt a melanocortin-3 receptor gene because the construct does not necessarily disrupt a melanocortin-3 receptor gene.

Inventions II and IV are patentably distinct because the cells can be used to test compounds *in vitro* while the method is used to make an animal. The products and reagents required for the cells are materially distinct from those required to make a transgenic. Inserting the construct of claim 1 into a cell does not necessarily result in a disruption in the melanocortin-3 receptor gene because the construct of claim 1 encompasses a construct encoding the full-length gene. The method of claim 10 does not require disruption occurs. The burden required to search both groups together would be undue.

Inventions II and V or VI are patentably distinct because the cells can be used to study the function of melanocortin-3 receptor while the melanocortin-3 receptor modulators can be used to treat disease. The protocols and reagents for cells and modulators are materially distinct and separate. The cells do not require the modulators and the modulators do not require the cells.

Inventions II and VII are patentably distinct because the cells can be used to test compounds while the data can be used for statistical analysis. The protocols and reagents for transgenic mice and data obtained from transgenic mice are materially distinct and separate. The

Inventions III and IV are patentably distinct because the mouse can be used to make cells for an *in vitro* assay while the method is used to make an animal. The products and reagents required for the using the transgenic are materially distinct from those required to make a transgenic. The burden required to search both groups together would be undue.

Inventions III and V or VI are patentably distinct because the mouse can be used as a model of disease while the modulator of melanocortin-3 receptor can be used to treat a patient. The protocols and reagents for mice and for using a modulator to treat disease are materially distinct and separate. The mouse does not require the modulator and the modulator does not require the mouse.

Inventions III and VII are patentably distinct because the mouse can be used as a model of disease while the data can be used for statistical analysis. The protocols and reagents for transgenic mice and data obtained from transgenic mice are materially distinct and separate. The mouse does not require the data and the data does not require the mouse.

Inventions IV and V or VI are patentably distinct because the method can be used make a transgenic while the modulator of melanocortin-3 receptor can be used to treat a patient. The protocols and reagents for making transgenics and for using a modulator to treat disease are materially distinct and separate. The method does not require the modulator and the modulator does not require the method.

Inventions IV and VII are patentably distinct because the method is used to make a mouse while the data can be used for statistical analysis. The protocols and reagents for making

The method of making the mouse does not require the data and the data does not require the method of making the mouse.

Inventions V and VI are patentably distinct because antagonists and agonists have different modes of operations, different purposes and different structures. The antagonist does not require the agonist and vice versa. The burden required to search both groups together would be undue.

Inventions V or VI and VII are patentably distinct because the modulator can be used to treat disease while the data can be used for statistical analysis. The protocols and reagents for using modulators and for data obtained from transgenic mice are materially distinct and separate. The modulators do not require the data and the data does not require the modulators.

Because these inventions are distinct for the reasons given above and the search required for each of the groups is mutually exclusive, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

Inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wilson who can normally be reached on Monday through Friday from 9:00 am to 5:30 pm at (703) 305-0120.

Questions of formal matters can be directed to the patent analyst, Dianiece Jacobs, who can normally be reached on Monday through Friday from 9:00 am to 5:30 pm at (703) 305-3388.

Questions of a general nature relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1235.

If attempts to reach the examiner, patent analyst or Group receptionist are unsuccessful, the examiner's supervisor, Deborah Reynolds, can be reached on (703) 305-4051.

The official fax number for this Group is (703) 308-4242.

Michael C. Wilson

MICHAEL WILSON
PRIMARY EXAMINER